Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.   (Currently Amended) A data processing system with programmable addressing, comprising:

at least one multifunctional input/output device ~~devices~~ operating in a logical partition environment, wherein the logical partition environment comprises a first operating system and a second operating system distinct from the first operating system;

~~control bits located in~~ a memory coupled to the at least one multifunctional input/output device, wherein the memory contains a first set of control bits, wherein the first set of control bits allocate a first function of the multifunctional input/output devices into a first memory location of the memory, and wherein the first function is assigned to the first operating system;

an address bus coupled to the at least one multifunctional input/output device, wherein the address bus allows transmission of the control bits between the at least one multifunctional input/output device and the memory; ~~leading the control bits to locations for the multifunctional input/output devices;~~ and

a programmable address control coupled to the address bus, wherein the programmable address control relocates the first set of control bits from the first memory location to a second memory location in the memory, and wherein the second memory location is inaccessible to the first operating system. ~~the programmable address control relocates individual functions.~~

2.   (Withdrawn) A method of programmable addressing comprising the steps of:
relocating functions within a multifunctional chip to be distributed across multiple logical partitions; and maintaining security over the distribution mechanism.

3.   (Withdrawn) A method for protecting control bits in a data processing system, the method comprising:

choosing an address bit from a plurality of address bits that store addresses to data processing system functions; and

inverting the address bit such that any individual operating system instance in a set of operating system instances is unable to access the stored address; wherein the set of operating system instances are safeguarded from being corrupted and the other instances of the operating system are safeguarded from being affected.

4-6.　(Cancelled)

7.　(Withdrawn)　A computer program product in a computer readable media for use in a data processing system for programmable addressing, the computer program product comprising:

　　　first instructions for relocating functions within a multifunctional chip to be distributed across multiple logical partitions; and

　　　second instructions for maintaining security over the distribution mechanism.

8.　(Withdrawn)　A computer program product in a computer readable media for use in a data processing system for protecting control bits in a data processing system, the computer program product comprising:

　　　first instructions for choosing an address bit from a plurality of address bits that store addresses to data processing system functions; and

　　　second instructions for inverting the address bit such that any individual operating system instance in a set of operating system instances is unable to access the stored address; wherein the set of operating system instances are safeguarded from being corrupted and the other instances of the operating system are safeguarded from being affected.

9-11.　(Cancelled)

12.　(Withdrawn)　A system for programmable addressing, the system comprising:

　　　first means for relocating functions within a multifunctional chip to be distributed across multiple logical partitions; and

　　　second means for maintaining security over the distribution mechanism.

13.　(Withdrawn)　A system for protecting control bits in a data processing system, the system comprising:

　　　first means for choosing an address bit from a plurality of address bits that store addresses to data processing system functions; and

　　　second means for inverting the address bit such that any individual operating system instance in a set of operating system instances is unable to access the stored address; wherein the set of operating system instances are safeguarded from being corrupted and the other instances of the operating system are safeguarded from being affected.

14-16. (Cancelled)

17. (Currently Amended) The data processing system of claim 1, wherein the programmable address control ~~moves a control area of a multifunctional input/output device to an area secure from access by other computer programs and remaps internal functions of the multifunctional input/output device~~ remaps the first function to normal address ranges expected by the first operating system. ~~a computer program accessing the multifunctional input/output device.~~

18. (Currently Amended) The data processing system of claim 1, wherein the programmable address control ~~relocates individual functions to be distributed across multiple logical partitions and~~ maintains security. ~~in distributing the individual functions.~~

19. (Currently Amended) The data processing system of claim 1, wherein the programmable address control ~~chooses an address bit from a plurality of address bits that store addresses to data processing system functions and inverts~~ relocates the first set of control bits by inverting the first set of control bits. ~~the address bit such that any individual operating system instance in a set of operating system instances is unable to access the stored address, wherein the set of operating system instances are safeguarded from being corrupted and the other instances of the operating system are safeguarded from being affected.~~

20. (Cancelled)

21. (Currently Amended) The data processing system of claim [[1]] 19, wherein inverting the first set of control bits is performed by an inverter coupled to the address bus. ~~the individual functions for a multifunctional input/output device are relocated by inserting an inverter on an address bus for the multifunctional input/output device.~~

22. (Currently Amended) The data processing system of claim [[1]] 21, wherein the inverter is programmable and may be changed based on any operating system environment and frequency of initialization.

23. (Currently Amended) The data processing system of claim 1, wherein the multifunctional input/output device comprises one of a modem, a serial port, USB infrared port, [[or]] and a network adapter.